

## REMARKS/ARGUMENTS

### I. NON-PRIOR ART MATTERS

- A. The Office Action objected to claim 8 under 37 CFR 1.75(d)(1).

Claim 8 is amended herein and applicant asserts that it now meets the requirements of 37 CFR 1.75(d)(1).

- B. The Office Action mailed rejected claims 8-14 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8, 10 and 11 are amended herein and applicant asserts that they now meet the requirements of 35 USC 112, second paragraph.

Applicant respectfully traverses the Examiner's rejection of claim 11(d) recitation of "a particular characteristic" as not having sufficient antecedent basis. The limitation is introduced into the claim for the first time in element (d) and therefore is appropriately claimed as "a" particular characteristic."

Claims 9 and 10 are dependent upon claim 8 and claims 12 - 14 are dependent upon claim 11 and now are also acceptable.

### II. PRIOR ART MATTERS

- A. The Office Action rejected claims 8-10 under 35 U.S.C. 103(a) as being unpatentable over Muramatsu in combination with Derakshani and Nysaether. Applicant respectfully traverses the rejection.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.<sup>1</sup> If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of non-obviousness.<sup>2</sup>

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<sup>1</sup>MPEP Sec. 2142.

<sup>2</sup>Id.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.<sup>3</sup>

Applicant respectfully traverses the § 103 rejection because the office action has not established a *prima facie* case of obviousness.

**1. The cited prior art does not teach or suggest all the claim limitations.**

Claim 8.

None of the references discloses the following element from claim 8:

- (c) measurement of a particular characteristic of the image;
- (d) deducing from the particular characteristic thus measured, a range of values for the electrical quantity of the finger judged in principle acceptable using a relationship established between values of a particular characteristic of the image and a range of said values of the electrical quantity of the finger judged acceptable;

As to element (c), the Examiner admits at page 6, first full paragraph, that Miramatsu does not disclose the claimed limitation.

As to element (c), Applicant asserts that the Examiner is incorrect at page 6, last full paragraph, that Derakshani at page 384, left column, Section 2.2, "The Skin," teaches the claimed element. Derakshani teaches measurement of a particular characteristic of the skin at the cited section, not a particular characteristic of the image.

As to element (d), none of the references teaches deducing, from the particular characteristic thus measured, a range of values for the electrical quantity of the finger judged in

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<sup>3</sup>Id. (emphasis supplied)

principle acceptable using a relationship established between values of a particular characteristic of the image and a range of said values of the electrical quantity of the finger judged acceptable.

Derakshani discloses a method for determining the living character of a finger. The method is based on an image analysis of the finger and the appearance of humidity in the skin pores. The document explains only the analysis of the image, but it does not explicitly disclose that this analysis is combined with a measurement of an electrical quantity of the finger and a determination of an acceptable range for values of the electrical quantity deduced from analysis of the image.

Derakshani discloses that methods using electrical measurement have been used in the past. (Background). However, Derakshani does not disclose a combination of such a method with analyzing the image (Methods and Materials). The Examiner has combined two embodiments which are described independently from each other (electrical measurements and images), one of which (electrical measurement) is not part of the stated methods and materials, and for which there is no suggestion to make the combination.

Although Derakshani discloses, on the one hand, a method (in the past) of measuring an electrical value, and, on the other hand, a method for determining a characteristic of the image, these two methods are not disclosed as cooperating together to determine an interval of acceptable values for an electrical measurement (which in any case is not disclosed as part of the method). Furthermore, the reference does not disclose a step of deducing, from the measured characteristic of the image, a range of values for an electrical quantity of the finger.

Nysaether discloses a means of measuring an electrical quantity of the finger. However, it does not disclose determining a characteristic of an image, deducing from the measured characteristic of the image a range of acceptable values for an electrical quantity, or comparing the measured electrical quantity to the deduced range.

Because the cited prior art, even if combined, does not disclose all claimed elements, claim 8 is not obvious over the cited prior art. Claim 8 is thus allowable. Claims 9 and 10 contain additional elements or limitations beyond allowable claim 8 and are also allowable.

Further as to claim 9, strongly disagrees with the Examiner's unwarranted statement that "any 'particular characteristic' of measurement of the image of a fingerprint is synonymous with minutiae." The Examiner cites to Fig. 8, S2 of Muramatsu:

In a general fingerprint comparison apparatus, when a fingerprint is input using an image sensor, a recognition section performs image processing of the fingerprint, and detects characteristic points of the fingerprint, these being known as minutiae.

The term "minutiae" has a particular, technical definition in the art of fingerprint analysis. The term is defined as "the points of interest in a fingerprint, such as bifurcations (a ridge splitting into two) and ridge endings."<sup>4</sup>

This technical definition does not read on the elements of the Markush group of claim 9. The particular characteristics claimed are characteristics of the image (contrast, greyscale) while minutiae are points of interest of the fingerprint.

The cited prior art does not teach or disclose all limitations of claim 9. Therefore, claim 9 is not obvious over Muramatsu.

B. The Office Action rejected claims 11-13 under 35 USC 103(a) as being unpatentable over Nysaether in combination with Derakshani and Muramatsu. Applicant respectfully traverses the rejection.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.<sup>5</sup> If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of non-obviousness.<sup>6</sup>

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations.

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<sup>4</sup> <http://en.wikipedia.org/wiki/minutiae>.

<sup>5</sup> MPEP Sec. 2142.

<sup>6</sup> Id.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.<sup>7</sup>

Applicant respectfully traverses the § 103 rejection because the office action has not established a *prima facie* case of obviousness.

**Regarding claim 11**, the references, even if combined, do not disclose:

(c) means for measuring a particular characteristic of the image;

(d) means of deducing from the particular characteristic thus measured a range of values for the electrical quantity judged in principal acceptable using a relationship established between values of the particular characteristic of the image and a range of values of the electrical quantity of the finger judged acceptable;

The Examiner is referred to the discussion under the 103(a) rejection above for applicant's detailed arguments in regard to Miramatsu, Derakshani, and Nysaether.

In regard to Nysaether, the Office Action mailed January 29, 2008 admitted (page 12, first full paragraph) that Nysaether does not specifically disclose an optical system for taking an image of the fingerprint carried by the finger and for measuring a particular characteristic of the image thus taken nor means for validating the value of the electrical quantity measured if this measurement is situated in the range. The Examiner may not now retract this statement.

Applicant further asserts that Nysaether does not disclose a means of deducing from the particular characteristic thus measured a range of values for the electrical quantity judged in principal acceptable using a relationship established between values of the particular characteristic of the image and a range of values of the electrical quantity of the finger judged acceptable.

Thus, there is no *prima facie* case of obviousness because the references, even if combined, do not disclose every element of claim 11.

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<sup>7</sup>Id. (emphasis supplied)

**In regard to claim 12:** Nysaether does not disclose an optical system for taking an image of a fingerprint. Claim 12 is dependent on claim 11. Therefore, the further limitations of claim 12 in the claimed Markush group are also not disclosed. The Examiner's argument for Nysaether's teaching of such an optical system is simply incorrect. Nysaether is a capacitive sensor that depends on the conductivity of the skin.

**In regard to claim 13,** claim 13 has additional elements or limitations beyond allowable claim 12 and is also allowable.

- C. The Office Action rejected claim 14 under 35 USC 103(a) as being unpatentable over Nysaether in combination with Derakshani and Murmatsu and further in view of Lee. Applicant respectfully traverses the rejection.

Claim 14 has additional elements or limitations beyond allowable claims 12 and 13 and is also allowable.

- D. The Office Action's reasons for making any of the above combinations are insufficient.

The Office Action (p. 15, 3<sup>rd</sup> full paragraph) states that "all the claimed elements were known in the prior art..." As discussed above, this is not the case. Therefore, one of ordinary skill in the art at the time of the invention would not have been motivated to make the combination. Furthermore, the combination would result in a change in the respective functions of the reference to produce new results not predictable to one of ordinary skill in the art at the time of the invention.

At page 20, the Examiner appears to put the burden on the applicant "to analyze the prior art document(s) in their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record."

This is an incorrect reading of the case law of the Federal Circuit cited above.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.<sup>8</sup> If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of non-obviousness.<sup>9</sup>

For the above reasons, Applicant respectfully requests the allowance of all claims and the issuance of a Notice of Allowance.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 02-3732.

Respectfully submitted,

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<sup>8</sup>MPEP Sec. 2142 Eighth Edition, August 2001. Latest Revision July 2008 (emphasis supplied).

<sup>9</sup> Id.